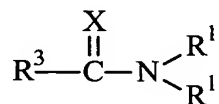


WHAT IS CLAIMED IS:

1. An aqueous polyurethane dispersion comprised of water having therein dispersed polyurethane particles and a nonvolatile non-reactive property enhancing water-soluble compound.

2. The aqueous polyurethane dispersion of Claim 1, wherein the nonvolatile non-reactive property enhancing water-soluble compound is

(a) an amido compound of the formula:



where X is NH, O or S and each R¹ is independently H or a 1-35 carbon containing monovalent radical that is aliphatic, aromatic or combination thereof, which may be substituted with up to five atoms selected from the group consisting of oxygen, nitrogen, sulfur, phosphorous, halogen and combinations thereof and R³ is -N(R¹)₂ or -C(R¹)₃;

(b) a salt of the amido compound;

(c) a sugar; or

(d) combination thereof.

3. The aqueous polyurethane dispersion of Claim 1, wherein the nonvolatile non-reactive property enhancing water-soluble compound is urea, thiourea, N,N'-dimethylurea, N,N-dimethylurea, a C₆ sugar, a C₁₂ sugar, guanidine, thioguanidine, or combination thereof.

4. The aqueous polyurethane dispersion of Claim 1, wherein the nonvolatile non-reactive property enhancing water-soluble compound is urea, glucose, sucrose, N,N'-dimethylurea, N,N-dimethylurea or combination thereof.

5. The aqueous polyurethane dispersion of Claim 1, wherein the polyurethane particles are a nonionizable polyurethane.

5 6. The aqueous polyurethane dispersion of Claim 5, wherein the polyurethane particles are of an aromatic polyisocyanate.

7. A method of forming an improved polyurethane dispersion comprising,

10 (a) reacting in water an isocyanate terminated polyurethane prepolymer and a chain extending agent until substantially all of the isocyanate has been reacted to form a polyurethane dispersion and

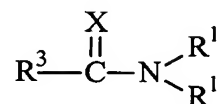
15 (b) adding to the polyurethane dispersion a nonvolatile, non-reactive, property enhancing, water soluble compound to form the improved polyurethane dispersion.

8. The method of Claim 7 wherein the property enhancing, water soluble compound is added immediately after
20 the dispersion has been formed causing the temperature of the dispersion to decrease.

9. A polyurethane comprised of a polyurethane having therein a nonvolatile, non-reactive, property enhancing water-soluble compound, a decomposition product of
25 the non-reactive, property enhancing water-soluble compound or a reaction product of the non-reactive, property enhancing water soluble compound with another compound other than the polyurethane or precursors that form the polyurethane.

10. The polyurethane of Claim 9, wherein
30 nonvolatile non-reactive property enhancing water-soluble compound is

(a) an amido compound of the formula:



where X is NH, O or S and each R¹ is independently H or a 1-35 carbon containing monovalent radical that is aliphatic, aromatic or combination thereof, which may be substituted with up to five atoms selected from the group consisting of oxygen, nitrogen, sulfur, phosphorous, halogen and combinations thereof and R³ is -N(R¹)₂ or -C(R¹)₃;

(b) a salt of the amido compound;

10 (c) a sugar;

(d) a decomposition product of the aforementioned;

(e) a reaction product of the aforementioned; or

(f) a combination thereof.

11. The polyurethane of Claim 9, wherein the nonvolatile non-reactive property enhancing water-soluble compound is urea, thiourea, N,N'-dimethylurea, N,N'-dimethylurea, a C₆ sugar, a C₁₂ sugar, guanidine, thioguanidine, a decomposition product of the aforementioned, a reaction product of the aforementioned or combination thereof.

12. The polyurethane of Claim 9, wherein the nonvolatile non-reactive property enhancing water-soluble compound is urea, glucose, sucrose, N,N'-dimethylurea, N,N'-dimethylurea, a decomposition product of the aforementioned, a reaction product of the aforementioned or combination thereof.

13. The polyurethane of Claim 9, wherein the polyurethane has therein the nonvolatile, non-reactive, property enhancing water-soluble compound.

14. The polyurethane of Claim 13, wherein the nonvolatile, non-reactive, property enhancing water-soluble compound is urea, glucose, sucrose, N,N'-dimethylurea, N,N-dimethylurea or combination thereof.

5 15. The polyurethane of Claim 9, wherein the polyurethane is tackier than a like polyurethane without the nonvolatile, non-reactive, property enhancing water-soluble compound.

10 16. The polyurethane of Claim 13, wherein the nonvolatile, non-reactive, property enhancing water-soluble compound remains in the polyurethane after being exposed to water.

15 17. The polyurethane of Claim 9, wherein the % elongation of the polyurethane is at least about 5% greater than a like polyurethane lacking the nonvolatile, non-reactive, property enhancing water-soluble compound.

20 18. The polyurethane of Claim 9, wherein the tensile strength of the polyurethane is at least about 5% greater than the tensile strength of a like polyurethane lacking the nonvolatile, non-reactive, property enhancing water-soluble compound.

19. A method of forming a polyurethane object comprising:

25 (a) forming an object from an aqueous polyurethane dispersion comprised of water and polyurethane particles and having therein a nonvolatile, non-reactive property enhancing water soluble compound and

30 (b) heating the formed object to a temperature such that the nonvolatile, organic property enhancing compound decomposes or reacts with a component of the aqueous polyurethane dispersion

other than the polyurethane particles forming a resultant nonvolatile compound in the polyurethane object.

20. The method of Claim 19, wherein the NNPEW
5 reacts with an additive selected from the group consisting of rheological modifiers, defoamers, antioxidants, pigments, water insoluble fillers, dyes, and combinations thereof.

21. The method of Claim 19 wherein the NNPEW is
urea, thiourea, N,N'-dimethylurea, N,N-dimethylurea, a C₆
10 sugar, a C₁₂ sugar, guanidine, thioguanidine, or combination thereof.